



(43) International Publication Date 16 February 2006 (16.02.2006)

(10) International Publication Number WO 2006/016731 Al

(51) International Patent Classification':

HOIL 33/00

(21) International Application Number:

PCT/KR2004/002688

- (22) International Filing Date: 20 October 2004 (20.10.2004)
- (25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data: 10-2004-0063722 13 August 2004 (13.08.2004)

- (71) Applicant (for all designated States except US): SEOUL NATIONAL UNIVERSITY INDUSTRY FOUNDAT TION [KR/KR]; San 4-2 Bongcheon-dong, Kwanak-gu, Seoul 151-818 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): YOON, Euijoon [KR/KR]; 2-1501 Woosung 3-cha Apt., Gaepo 1-dong, Gangnam-gu, Seoul 151-742 (KR). KWON, Soon-Yong [KR/KR]; Hansol Town, 90-72, Silim-dong, Kwanak-gu, Seoul 151-010 (KR). MOON, Pilkyung [KR/KR]; 705, Golden Mansion Apt., 302-53 Ichon 1-dong, Yongsan-gu, Seoul 140-854 (KR).

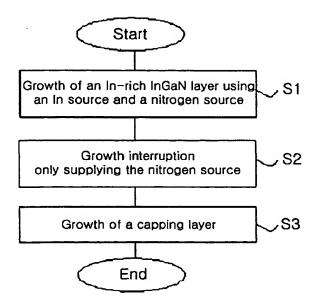
- (74) Agent: AN, Sang Jeong; 512-1906, 221, Gumi-dong, Bundang-gu, Seongnam-si, Kyunggi-do 463-715 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: GROWTH METHOD OF NITRIDE SEMICONDUCTOR LAYER AND LIGHT EMITTING DEVICE USING THE **GROWTH METHOD** 



(57) Abstract: The present invention relates to a growth method of nitride semiconductor layer comprising a first step for growing a first nitride 5 semiconductor layer on an Al<sub>x</sub> Ga,In<sub>1.x.</sub>N(0<-x< 1, 0<y<1, 0<x+y< 1) layer, a second step for reducing the thickness of the first nitride semiconductor layer by growth interruption and, a third step for growing a second nitride semiconductor layer having a band gap energy higher than that of the first nitride semiconductor layer on the first nitride semiconductor layer with the to reduced thickness and a light emitting device using the growth method.

